SIDDHANT GARG

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siddhant-garg

EDUCATION

University of Wisconsin-Madison
MS in Computer Science
GPA : 4.0 / 4.0 | Aug.2018-Present

IIT Bombay, India
B.Tech. Computer Science (With Honors) | Minor in Statistics
GPA : 9.59 / 10 | Jul.2014-Jul.2018

KEY COURSEWORK

Advanced Machine Learning
Reinforcement Learning
Artificial Intelligence
Information Retrieval & Web Mining
Big Data Systems
Operating Systems
Data Structures and Algorithms

TECHNICAL SKILLS

Proficient-
• Python • C++ • Tensorflow • Pytorch
• Keras • MATLAB • SQL • GIT • LaTeX

Familiar-
• Java • Bash •Spark •MapReduce

AWARDS & FELLOWSHIPS

KVPY Fellowship- Dept. of Science & Technology, Govt. of India, 2013

NTSE Scholarship- Dept. of Science & Technology, Govt. of India, 2010

Teaching Assistantship for 5 courses at IIT Bombay, 2015-18

ACADEMIC ACTIVITIES

Served on Program Committee as reviewer for EMNLP 2019, AAAI 2020

Presented 2 posters at Midwest ML Symposium, Madison 2019

Delivered a talk: "Intel-PT Tracing" at VLSC meet, EPFL, Lausanne in 2017

Delivered a talk: "Tree exploration" at Friedrich Gauss Fakultät, TUB in 2016

PUBLICATIONS

EMNLP'18 — Surprisingly Easy Hard-Attention for Seq to Seq Learning
Siddhant Garg*, S.Shankar*, Sunita Sarawagi
Conference on Empirical Methods in NLP (EMNLP), 2018

AAAI'20 — TANDA: Transfer and Adapt Pre-Trained Transformers for Answer Sentence Selection**
Siddhant Garg, Thuy Vu, Alessandro Moschitti
34th AAAI conference on Artificial Intelligence (AAAI), 2020

AAAI'20 — SimpleTran: Simple but Effective Transfer Learning of Pre-trained Sentence Representations for Text Classification**
Siddhant Garg, Rohit Kumar Sharma, Yingyu Liang
34th AAAI conference on Artificial Intelligence (AAAI), 2020

IVCNZ'19 — Interpretable Inference Graphs for Face Recognition
Siddhant Garg*, Goutham Ramakrishnan*, Varun Thumbe
34th Image Vision Computing New Zealand (IVCNZ), 2019

NeurIPS'19 — Stochastic Bandits with Delayed Composite Anonymous Feedback
Siddhant Garg*, Aditya Kumar Akash*
Workshop on Machine Learning with Guarantees (NeurIPS), 2019

EMNLP'19 — Data Ordering Patterns for Neural Machine Translation**
Siddhant Garg
3rd Workshop on Neural Generation and Translation (EMNLP), 2019

** Under Review

WORK EXPERIENCE

Jun-Sep'19 — Amazon | Applied Scientist Intern
Alexa Search, Los Angeles
Pre-Trained Transformers for Answer Sentence Selection
Proposed an effective fine-tuning technique for (Ro)BERT(a) for answer selection(AS) in Alexa Web-based QA using an intermediate fine-tuning step with a large noise-free dataset. Contributed to build ASNQ, a large dataset based on Natural Questions (NQ) for AS. Established new state-of-the-art MAP results on WikiQA & TREC-QA with 92% & 94.3%, beating 83.4% and 87.5% from previous work.

May-Jul'17 — EPFL, Switzerland | Summer Intern
Automatic Debugging System
Incorporated Intel Processor Trace (PT) by getting the control flow for an execution. Optimized decoding library in C using in-memory control flow graph and memoizing the decoded instructions.

May-Jul'16 — TU Braunschweig, Germany | Summer Intern
Swarm Robot Algorithms
Worked on new lower bound on competitive ratio in online/offline case for minimizing the time of exploration of an unknown tree by a swarm of k robots. Generalized an algorithm for 3 and 4 robots.

PROJECTS

Sep'19-Now — Adversarial Examples for fine-tuning BERT — Prof. Justin Hsu
Generation of adversarial examples using contextualised embeddings

Sep-Dec'18 — Distillation of BERT Transformer — Prof. Yingyu Liang
Distillation of BERT using a multi-layer text-CNN with l2 error loss

Sep-Dec'18 — Data Ordering Patterns for Adam Optimizer — Prof. Shivaram V.
Perpleity based data ordering for NMT optimised by Adam optimizer

Jan-May'18 — Deep Learning Sequence Attention Models — Prof. Sunita Sarawagi
New hard attention for seq2seq tasks using a beam approximation of joint probability distribution between attention and target.

Aug-Dec'17 — Images to LATEX code automatic conversion system
Generate LATEX code for scanned printed mathematical equations